

not be more than 6000 ft. per minute in the case of high-pressure cylinders, and 9000 ft. per minute for the intermediate-pressure cylinders. The low-pressure cylinder ports and port opening often present a difficulty, and the speed through the latter may need to be as high as 14,500 ft. per minute, 11,000 to 12,000 ft. per minute being good figures.

Steam jackets are not now usually fitted, even though liners may be provided for the high-pressure and low-pressure cylinders. Experience has shown that the loss by condensation in the jackets is about equal to the

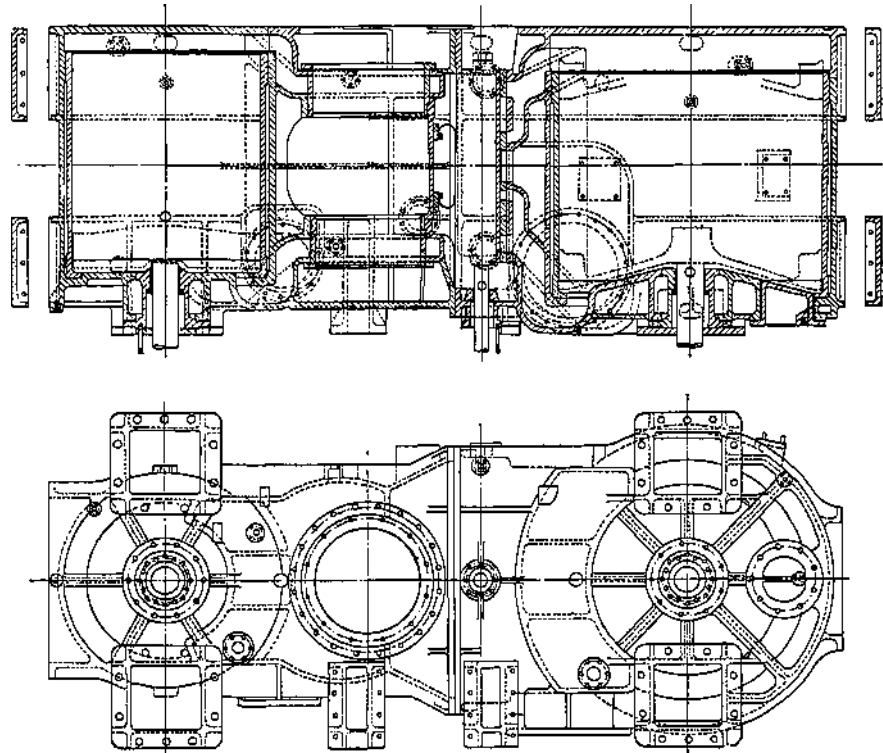


Fig. 27.—Marine-engine Cylinders

saving effected in the cylinders by the presence of steam in the jackets. Warming valves for use before starting the engine are usually fitted and steam allowed to enter the space between the liner and the cylinder barrel.

This space should, of course, have arrangements for its being effectively drained to prevent accumulation of water. A waterlogged jacket would do positive harm. There are many ways of securing the liners in the cylinder bodies; a typical method is shown in fig., 27. The bottom cylinder

covers and stuffing-boxes are cast with the cylinders, and, of course, follow the shape of the under side of the piston, and are well ribbed on the under side. The feet which rest upon the columns are also cast with the cylinders, and are tied to the barrel by ribs carried well up. Sometimes the feet are of hollow box-section, giving a neater appearance. The column-bolts are